

What is claimed is:

1. A method of inhibiting death of a neuronal cell in a mammal, comprising administering to said mammal a composition comprising a steroid compound.
- 5 2. The method of claim 1, wherein said composition is administered at a dose sufficient to inhibit oxidative stress-induced neuronal cell death.
3. The method of claim 1, wherein said composition is administered at a dose sufficient to inhibit apoptotic death of said neuronal cell.
- 10 4. The method of claim 1, wherein said steroid compound is a progestin compound.
5. The method of claim 4, wherein said progestin compound is selected from the group consisting of (17 α)-17-Hydroxy-19-norpregn-4-en-20-yn-3-one and 17a-(acetyloxy)-
15 6-methylpregna-4,6-diene-3,20-dione.
6. The method of claim 1, wherein said steroid is an anti-inflammatory steroid.
7. The method of claim 6, wherein said anti-inflammatory steroid is flunisolide.
- 20 8. The method of claim 1, wherein said mammal is suffering from or at risk of developing a neurodegenerative disorder.
9. The method of claim 8, wherein said neurodegenerative disorder is selected from the
25 group consisting of Amyotrophic Lateral Sclerosis, Alzheimer's disease, Huntington's disease and Parkinson's disease.
10. The method of claim 1, wherein said mammal is suffering from or at risk of developing a neurological disorder.
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11. The method of claim 10, wherein said neurological disorder is selected from the group consisting of diabetic neuropathy, cerebral hypoxia, encephalitis and menengitis.
- 5 12. The method of claim 1, wherein said mammal is at risk of experiencing a stroke or has suffered a stroke.
- 10 13. A method of inhibiting death of a neuronal cell in a mammal, comprising administering to said mammal a composition comprising an anti-motion sickness agent.
14. The method of claim 13, wherein said composition is administered at a dose sufficient to inhibit oxidative stress-induced neuronal cell death.
- 15 15. The method of claim 13, wherein said composition is administered at a dose sufficient to inhibit apoptotic death of said neuronal cell.
16. The method of claim 13, wherein said anti-motion sickness agent is a H1 histamine receptor blocker compound.
- 20 17. The method of claim 16, wherein said H1 histamine receptor blocker compound is 1-[(4-Chlorophenyl)phenylmethyl]-4-[(3-methylphenyl)methyl]piperazine.
18. The method of claim 13, wherein said anti-motion sickness agent is a belladonna alkaloid.
- 25 19. The method of claim 18, wherein said belladonna alkaloid is 6 β ,7 β -epoxy-1 α H,5 α H-tropan-3 α -ol(—)-tropate.
- 30 20. The method of claim 13, wherein said mammal is suffering from or at risk of developing a neurodegenerative disorder.

21. The method of claim 20, wherein said neurodegenerative disorder is selected from the group consisting of Amyotrophic Lateral Sclerosis, Alzheimer's disease, Huntington's disease and Parkinson's disease
- 5 22. The method of claim 13, wherein said mammal is suffering from or at risk of developing a neurological disorder.
23. The method of claim 22, wherein said neurological disorder is selected from the group consisting of diabetic neuropathy, cerebral hypoxia, encephalitis and
10 menengitis.
24. The method of claim 13, wherein said mammal is at risk of experiencing a stroke or has suffered a stroke.
- 15 25. A method of inhibiting death of a neuronal cell in a mammal, comprising administering to said mammal a composition comprising an antibiotic compound at a dose sufficient to inhibit oxidative stress-induced neuronal cell death.
26. The method of claim 25, wherein said composition is administered at a dose sufficient
20 to inhibit apoptotic death of said neuronal cell.
27. The method of claim 25, wherein said antibiotic compound is a macrolide antibiotic compound.
- 25 28. The method of claim 27, wherein said macrolide antibiotic compound is selected from the group consisting of erythromycin, troleandomycin, azithromycin and clarithromycin
29. The method of claim 25, wherein said antibiotic compound is a tetracycline
30 compound or derivative.

30. The method of claim 29, wherein said tetracycline derivative compound is selected from the group consisting of chlorotetracycline, oxytetracycline, demeclocycline, methacycline, doxycycline and minocycline.
- 5 31. The method of claim 25, wherein said antibiotic is a tobramycin compound or a sulfacetamide compound.
32. The method of claim 25, wherein said mammal is suffering from or at risk of developing a neurodegenerative disorder.
- 10 33. The method of claim 32, wherein said neurodegenerative disorder is selected from the group consisting of Amyotrophic Lateral Sclerosis, Alzheimer's disease, Huntington's disease and Parkinson's disease.
- 15 34. The method of claim 25, wherein said mammal is suffering from or at risk of developing a neurological disorder.
35. The method of claim 34, wherein said neurological disorder is selected from the group consisting of diabetic neuropathy, cerebral hypoxia, encephalitis and menengitis.
- 20 36. The method of claim 25, wherein said mammal is at risk of experiencing a stroke or has suffered a stroke.
- 25 37. A method of inhibiting death of a neuronal cell in a mammal, comprising administering to said mammal a composition comprising a calcium channel blocker compound.
- 30 38. The method of claim 37, wherein said composition is administered at a dose sufficient to inhibit oxidative stress-induced neuronal cell death.

39. The method of claim 37, wherein said composition is administered at a dose sufficient to inhibit apoptotic death of said neuronal cell.

40. The method of claim 37, wherein said calcium channel blocker compound is selected from the group consisting of isopropyl (2-methoxyethyl) 1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-3,5-pyridine-dicarboxylate; α -[3-[[2-(3,4-dimethoxyphenyl)ethyl]methylamino]propyl]-3,4-dimethoxy- α -1(1-methylethyl)benzeneacetonitrile, 3,5-pyridinedicarboxylic acid; 1,4-dihydro-2,6-dimethyl-4-(2-nitrophenyl)-, dimethyl ester and 1,8-dihydroxy-9(10H)-anthracenone.

41. The method of claim 37, wherein said mammal is suffering from or at risk of developing a neurodegenerative disorder.

42. The method of claim 41, wherein said neurodegenerative disorder is selected from the group consisting of Amyotrophic Lateral Sclerosis, Alzheimer's disease, Huntington's disease and Parkinson's disease

43. The method of claim 37, wherein said mammal is suffering from or at risk of developing a neurological disorder.

44. The method of claim 43, wherein said neurological disorder is selected from the group consisting of diabetic neuropathy, cerebral hypoxia, encephalitis and meningitis.

45. The method of claim 37, wherein said mammal is at risk of experiencing a stroke or has suffered a stroke.

46. A method of inhibiting death of a neuronal cell in a mammal, comprising administering to said mammal a composition comprising an anti-depressant compound.

47. The method of claim 46, wherein said composition is administered at a dose sufficient to inhibit oxidative stress-induced neuronal cell death.

48. The method of claim 46, wherein said composition is administered at a dose sufficient to inhibit apoptotic death of said neuronal cell.

49. The method of claim 46, wherein said anti- depressant compound is selected from the group consisting of lithium carbonate, trazodone, bupropion hydrochloride, fluoxetine hydrochloride and sertraline hydrochloride.

50. The method of claim 46, wherein said mammal is suffering from or at risk of developing a neurodegenerative disorder.

51. The method of claim 50, wherein said neurodegenerative disorder is selected from the group consisting of Amyotrophic Lateral Sclerosis, Alzheimer's disease, Huntington's disease and Parkinson's disease

52. The method of claim 46, wherein said mammal is suffering from or at risk of developing a neurological disorder.

53. The method of claim 52, wherein said neurological disorder is selected from the group consisting of diabetic neuropathy, cerebral hypoxia, encephalitis and meningitis.

54. The method of claim 46, wherein said mammal is at risk of experiencing a stroke or has suffered a stroke.

55. A method of inhibiting death of a neuronal cell in a mammal, comprising administering to said mammal a composition comprising an alkali metal compound.

56. The method of claim 55, wherein said composition is administered at a dose sufficient to inhibit oxidative stress-induced neuronal cell death.

57. The method of claim 55, wherein said composition is administered at a dose sufficient to inhibit apoptotic death of said neuronal cell.

5 58. The method of claim 55, wherein said alkali metal compound is selected from the group consisting of lithium, caesium, rubidium and francium.

59. The method of claim 55, wherein said mammal is suffering from or at risk of developing a neurodegenerative disorder.

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60. The method of claim 59, wherein said neurodegenerative disorder is selected from the group consisting of Amyotrophic Lateral Sclerosis, Alzheimer's disease, Huntington's disease and Parkinson's disease

15 61. The method of claim 55, wherein said mammal is suffering from or at risk of developing a neurological disorder.

62. The method of claim 61, wherein said neurological disorder is selected from the group consisting of diabetic neuropathy, cerebral hypoxia, encephalitis and menengitis.

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63. The method of claim 55, wherein said mammal is at risk of experiencing a stroke or has suffered a stroke.

25 64. A method of inhibiting death of a neuronal cell in a mammal, comprising administering to said mammal a composition comprising an anti-arrhythmic agent.

65. The method of claim 64, wherein said composition is administered at a dose sufficient to inhibit oxidative stress-induced neuronal cell death.

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66. The method of claim 64, wherein said composition is administered at a dose sufficient to inhibit apoptotic death of said neuronal cell.

67. The method of claim 64, wherein said anti-arrhythmic agent is a beta- adrenergic receptor blocking compound.

68. The method of claim 67, wherein said beta- adrenergic receptor blocking compound is selected from the group consisting of d, 1-N-[4-[1-hydroxy-2-[(methylethyl)amino]ethyl]phenyl]methane-sulfonamide monohydrochloride and (S)-1-[(1,1-dimethylethyl)amino]-3-[[4-(4-morpholinyl)-1,2,5-thiadiazol-3-yl]oxy]-2-propanol (Z)-2-butenedioate

69. The method of claim 64, wherein said anti-arrhythmic agent is a sodium channel blocker compound.

70. The method of claim 69, wherein said sodium channel blocker compound is selected from the group consisting of lidocaine, mexiletine and prilocaine.

71. The method of claim 64, wherein said mammal is suffering from or at risk of developing a neurodegenerative disorder.

72. The method of claim 71, wherein said neurodegenerative disorder is selected from the group consisting of Amyotrophic Lateral Sclerosis, Alzheimer's disease, Huntington's disease and Parkinson's disease

73. The method of claim 64, wherein said mammal is suffering from or at risk of developing a neurological disorder.

74. The method of claim 73, wherein said neurological disorder is selected from the group consisting of diabetic neuropathy, cerebral hypoxia, encephalitis and meningitis.

75. The method of claim 64, wherein said mammal is at risk of experiencing a stroke or has suffered a stroke.

76. A method of inhibiting death of a neuronal cell in a mammal, comprising administering to said mammal a composition comprising dietary supplement at a dose sufficient to inhibit oxidative stress-induced neuronal cell death.

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77. The method of claim 76, wherein said composition is administered at a dose sufficient to inhibit apoptotic death of said neuronal cell.

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78. The method of claim 76, wherein said dietary supplement compound is selected from the group consisting of yohimbine, zinc, β -carotene, docosahexaenoic acid and retinol acetate.

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79. The method of claim 76, wherein said dietary supplement compound is a presynaptic alpha- adrenergic receptor blocking compound.

80. The method of claim 79, wherein said presynaptic alpha- adrenergic receptor blocking compound is selected from the group consisting of yohimbine, medetomidine hydrochloride and atipamezole.

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81. The method of claim 76, wherein said mammal is suffering from or at risk of developing a neurodegenerative disorder.

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82. The method of claim 81, wherein said neurodegenerative disorder is selected from the group consisting of Amyotrophic Lateral Sclerosis, Alzheimer's disease, Huntington's disease and Parkinson's disease

83. The method of claim 76, wherein said mammal is suffering from or at risk of developing a neurological disorder.

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84. The method of claim 83, wherein said neurological disorder is selected from the group consisting of diabetic neuropathy, cerebral hypoxia, encephalitis and meningitis.

85. The method of claim 76, wherein said mammal is at risk of experiencing a stroke or has suffered a stroke.

5 86. A method of inhibiting death of a neuronal cell in a mammal, comprising administering to said mammal a composition comprising muscle relaxant compound.

87. The method of claim 86, wherein said composition is administered at a dose sufficient to inhibit oxidative stress-induced neuronal cell death.

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88. The method of claim 86, wherein said composition is administered at a dose sufficient to inhibit apoptotic death of said neuronal cell.

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89. The method of claim 86, wherein said muscle relaxant compound is (Z)-5-fluoro-2-methyl-1-[[p-(methylsulfonyl)phenyl]methylene]-1 H-indene-3 acetic acid.

90. The method of claim 86, wherein said mammal is suffering from or at risk of developing a neurodegenerative disorder.

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91. The method of claim 90, wherein said neurodegenerative disorder is selected from the group consisting of Amyotrophic Lateral Sclerosis, Alzheimer's disease, Huntington's disease and Parkinson's disease

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92. The method of claim 86, wherein said mammal is suffering from or at risk of developing a neurological disorder.

93. The method of claim 92, wherein said neurological disorder is selected from the group consisting of diabetic neuropathy, cerebral hypoxia, encephalitis and meningitis.

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94. The method of claim 86, wherein said mammal is at risk of experiencing a stroke or has suffered a stroke.

95. A method of inhibiting death of a neuronal cell in a mammal, comprising administering to said mammal a composition comprising a dopaminergic agonist compound.

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96. The method of claim 95, wherein said composition is administered at a dose sufficient to inhibit oxidative stress-induced neuronal cell death.

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97. The method of claim 95, wherein said composition is administered at a dose sufficient to inhibit apoptotic death of said neuronal cell.

98. The method of claim 95, wherein said dopaminergic agonist compound is prolactin-inhibiting compound.

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99. The method of claim 95, wherein said prolactin inhibiting compound is bromocriptine.

100. The method of claim 95, wherein said mammal is suffering from or at risk of developing a neurodegenerative disorder.

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101. The method of claim 100, wherein said neurodegenerative disorder is selected from the group consisting of Amyotrophic Lateral Sclerosis, Alzheimer's disease, Huntington's disease and Parkinson's disease

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102. The method of claim 96, wherein said mammal is suffering from or at risk of developing a neurological disorder.

103. The method of claim 102, wherein said neurological disorder is selected from the group consisting of diabetic neuropathy, cerebral hypoxia, encephalitis and meningitis.

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104. The method of claim 96, wherein said mammal is at risk of experiencing a stroke or has suffered a stroke.

105. A method of inhibiting death of a neuronal cell in a mammal, comprising administering to said mammal a composition comprising carbonic anhydrase inhibitor compound.

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106. The method of claim 105, wherein said composition is administered at a dose sufficient to inhibit oxidative stress-induced neuronal cell death.

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107. The method of claim 105, wherein said composition is administered at a dose sufficient to inhibit apoptotic death of said neuronal cell.

108. The method of claim 105, wherein said carbonic anhydrase inhibitor compound is selected from the group consisting of methazolamide, acetazolamide, dorzolamide and brinzolamide.

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109. The method of claim 105, wherein said mammal is suffering from or at risk of developing a neurodegenerative disorder.

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110. The method of claim 109, wherein said neurodegenerative disorder is selected from the group consisting of Amyotrophic Lateral Sclerosis, Alzheimer's disease, Huntington's disease and Parkinson's disease

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111. The method of claim 105, wherein said mammal is suffering from or at risk of developing a neurological disorder.

112. The method of claim 111, wherein said neurological disorder is selected from the group consisting of diabetic neuropathy, cerebral hypoxia, encephalitis and meningitis.

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113. The method of claim 105, wherein said mammal is at risk of experiencing a stroke or has suffered a stroke.

114. A method of inhibiting death of a neuronal cell in a mammal, comprising administering to said mammal a composition comprising an anesthetic compound.

115. The method of claim 114, wherein said composition is administered at a dose sufficient to inhibit oxidative stress-induced neuronal cell death.

116. The method of claim 114, wherein said composition is administered at a dose sufficient to inhibit apoptotic death of said neuronal cell.

117. The method of claim 114, wherein said anesthetic compound is corticosteroid compound.

118. The method of claim 117, wherein said corticosteroid compound is selected from the group consisting of pramoxine, hydrocortizone, hetamethazone, budesonide, prednisone and cortisone.

119. The method of claim 114, wherein said anesthetic is dyclonine hydrochloride.

120. The method of claim 114, wherein said mammal is suffering from or at risk of developing a neurodegenerative disorder.

121. The method of claim 120, wherein said neurodegenerative disorder is selected from the group consisting of Amyotrophic Lateral Sclerosis, Alzheimer's disease, Huntington's disease and Parkinson's disease

122. The method of claim 114, wherein said mammal is suffering from or at risk of developing a neurological disorder.

123. The method of claim 122, wherein said neurological disorder is selected from the group consisting of diabetic neuropathy, cerebral hypoxia, encephalitis and meningitis.

124. The method of claim 114, wherein said mammal is at risk of experiencing a stroke or has suffered a stroke.

125. A method of inhibiting death of a neuronal cell in a mammal, comprising administering to said mammal a composition comprising an opioid antagonist compound .

126. The method of claim 125, wherein said composition is administered at a dose sufficient to inhibit oxidative stress-induced neuronal cell death.

127. The method of claim 125, wherein said composition is administered at a dose sufficient to inhibit apoptotic death of said neuronal cell.

128. The method of claim 125, wherein said opioid antagonist compound is selected from the group consisting of naltrexone, propoxyphene and pentazocine.

129. The method of claim 125, wherein said mammal is suffering from or at risk of developing a neurodegenerative disorder.

130. The method of claim 129, wherein said neurodegenerative disorder is selected from the group consisting of Amyotrophic Lateral Sclerosis, Alzheimer's disease, Huntington's disease and Parkinson's disease

131. The method of claim 125, wherein said mammal is suffering from or at risk of developing a neurological disorder.

132. The method of claim 131, wherein said neurological disorder is selected from the group consisting of diabetic neuropathy, cerebral hypoxia, encephalitis and meningitis.

133. The method of claim 125, wherein said mammal is at risk of experiencing a stroke or has suffered a stroke.

134. A method of inhibiting death of a neuronal cell in a mammal, comprising administering to said mammal a composition comprising a thiol compound.

5 135. The method of claim 134, wherein said composition is administered at a dose sufficient to inhibit oxidative stress-induced neuronal cell death.

136. The method of claim 134, wherein said composition is administered at a dose sufficient to inhibit apoptotic death of said neuronal cell.

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137. The method of claim 134, wherein said thiol compound is selected from the group consisting of 2-mercaptoethanesulfonic acid, propyl mercaptan, ethyl mercaptan and butyl mercaptan.

15 138. The method of claim 134, wherein said mammal is suffering from or at risk of developing a neurodegenerative disorder.

139. The method of claim 138, wherein said neurodegenerative disorder is selected from the group consisting of Amyotrophic Lateral Sclerosis, Alzheimer's disease, Huntington's disease and Parkinson's disease

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140. The method of claim 134, wherein said mammal is suffering from or at risk of developing a neurological disorder.

25 141. The method of claim 140, wherein said neurological disorder is selected from the group consisting of diabetic neuropathy, cerebral hypoxia, encephalitis and meningitis.

142. The method of claim 134, wherein said mammal is at risk of experiencing a stroke or has suffered a stroke.

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143. A method of inhibiting death of a neuronal cell in a mammal, comprising administering to said mammal a composition comprising a non-steroidal anti-inflammatory compound.

5 144. The method of claim 143, wherein said composition is administered at a dose sufficient to inhibit oxidative stress-induced neuronal cell death.

145. The method of claim 143, wherein said composition is administered at a dose sufficient to inhibit apoptotic death of said neuronal cell.

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146. The method of claim 143, wherein said non-steroidal anti-inflammatory compound is selected from the group consisting sulindac, ibuprofen, nabumentone, naproxen and acetaminophen.

15 147. The method of claim 143, wherein said mammal is suffering from or at risk of developing a neurodegenerative disorder.

148. The method of claim 147, wherein said neurodegenerative disorder is selected from the group consisting of Amyotrophic Lateral Sclerosis, Alzheimer's disease, Huntington's disease and Parkinson's disease

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149. The method of claim 143, wherein said mammal is suffering from or at risk of developing a neurological disorder.

25 150. The method of claim 149, wherein said neurological disorder is selected from the group consisting of diabetic neuropathy, cerebral hypoxia, encephalitis and meningitis.

151. The method of claim 143, wherein said mammal is at risk of experiencing a stroke or has suffered a stroke.

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